PERMIT TO OPERATE EVALUATION
(Low-NOx Boiler, R1146, PO, no PC)

Applicant's Name: M.C. Gill Corp.

Company ID No.: 13011

Mailing Address: 4056 Easy Street, El Monte, CA 91731

Equipment Address: 4056 Easy Street, El Monte, CA 91731

EQUIPMENT DESCRIPTION:

Application no. 423281 (Title V De Minimis Significant Permit Revision):

Application no. 481672 (PO, no PC):

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 1: COATING OPERATION					
BOILER, CLAYTON INDUSTRIES, WATERTUBE, MODEL NO. SEG604-2-FMB/LNB WITH BURNER, NATURAL GAS, CLAYTON, WITH LOW NOX, 20.085 MMBTU/HR. **A/N 481672**	**D51**			**CO:** 2000 PPMV NATURAL GAS (5A) [**RULE 407,4-2-1982];** **CO:** 100 PPMV NATURAL GAS (4) [**RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(A)(1)-BACT, 12-6-2002]* **CO:** 400 PPMV NATURAL GAS (5) [**RULE 1146,9-5-2008]; NOX:** 9 PPMV NATURAL GAS (4) [**RULE 1303(a)(1)-BACT, 5-10-1996;** *RULE 1303(a(1)-BACT, 12-6-2002]* **NOX:** 30 PPMV NATURAL GAS (5) [**RULE 1146,11-17-2000,** *RULE 1146, 9-5-2008]***;** **PM:** 0.1 GRAINS/SCF NATURAL GAS (5) [**RULE 409, 8-7-1981**]	D29.1 E328.1, E328.2

HISTORY:

Application no. 481672 was submitted by M.C. Gill Corp. to the District on April 17, 2008 for a new construction (Class I) of a low-NO_x boiler. A/N 481671 was submitted for the Title V revision permit. Since the boiler has already been constructed, a permit to operate will be issued. An additional 50% of the permitting fee will be billed. This natural gas-fired boiler will be used to produce steam for manufacturing operations. This new boiler replaced the 300-hp. boiler (A/N 230328, PO #D87953), which was moved to an adjacent building. The permit for this other boiler will remain active.

The new boiler was source tested by the facility on July 8, 2008. The source test report was evaluated by the District Monitoring and Source Testing Engineering Division, and found to be "conditionally acceptable." The (corrected) NO_x emissions were found to be less than 9 ppmv @ 3% O_2, and the CO emissions were below 100 ppmv @ 3% O_2 (actuals: 3.8 ppmv NO_x @ 3% O_2, and <31.6 ppmv CO @ 3% O_2), which meets the current BACT.

A/N	Previous		Equipment	Device No.
	A/N	Permit No.		
481672	n/a	n/a	Boiler, 20.085 mmBTU/hr, low-NO_x	D51
481671			Title V permit revision	

This company is a Title V facility. The Title V renewal permit was issued on 5/9/2005. The above application is part of the 1st revision since the renewal. A/N 481671 was submitted for a de minimis significant permit revision. This revision also includes the operation of a new RTO #3 (C48) (A/N 422026); the administrative change to separate out D11, D12 and D13 from C48 and D8 (A/N 456659); the administrative change to separate out D14 from C48 and D8 (A/N 456660); the administrative change to relocated RTO #6 and to vent D16-D17 and D20-D22 (A/N 456662); the administrative change to remove D19 and to vent D20-D22 to RTO #6 (C47) instead of C23 (A/N 456663); administrative change to vent D16-D17 to C47 instead of C18 (A/N 456664); and the installation of a new afterburner (C49) under A/N 456665 (evaluation done separately). Lastly, this revision will also include the change of conditions to the two spray booths under A/Ns 446595 (D39) and 454623 (D1) (evaluation done separately).

A/Ns 423281, 431630 and 447659 were also submitted for de minimis significant permit revision. A/N 423281 will be used for this revision to include all the changes; the other Title V permit revision applications will be cancelled.

According to the compliance data base, this company was issued one notice to comply (NC #D16505) on June 25, 2008 for the company to submit a copy of a plume modeling study to the District. According to the responsible District Inspector, the facility was found to be in compliance. Five complaints were filed against the facility in the past two years for various odors. However, none resulted in a finding of non-compliance.

PROCESS DESCRIPTION:

This company produces structural composites that utilize a phenolic resin-based resin structural foam called Gillfoam. Gillfoam is a blown cellular gas-filled polymeric thermosetting foam based on phenolic resin that is formed into rigid structural shapes for the automotive, aircraft, rail and marine industries. The manufacturing of Gillfoam involves a resin dip process and can include the utilization of woven fiberglass that is impregnated with resin in a vertical treater. Laminated honeycomb panels are used in commercial and military aircraft. As part of its manufacturing operations, M.C. Gill operates one 300-hp., one 200-hp. and one 100-hp. natural gas fired boilers for the production of steam for manufacturing operations. This new 600-hp. boiler has replaced the 300-hp. boiler, which was moved to an adjacent building. The permit limits for the NO_x and CO concentrations for BACT are 9 ppmv NO_x and 100 ppmv CO, at 3% O2.

All boilers are used to generate steam, and are fired on natural gas. The new boiler is equipped with a low-NO_x burner that complies with BACT requirements [9 ppmv NO_x @ 3% O_2 and 100 ppmv for CO @ 3% O_2.]. The average operating schedule is 18 hr/day, 7 day/week, and 52 week/year. The maximum operating schedule of the facility is 24 hr/day, 7 days/week, and 52 weeks/yr;

EMISSION CALCULATIONS:

Emissions from the operation of the new boiler (D51) are calculated using a spreadsheet with 9 ppmv for NO_x emissions and 100 ppmv for CO emissions, which are achieved-in-practice BACT for watertube boilers. NO_x and CO emissions are summarized on the following page:

Boiler rating (mmBTU/hr)	NO_x Emissions		CO Emissions		PM_{10} Emissions	
	(lb/hr)	(lb/day)	(lb/hr)	(lb/day)	(lb/hr)	(lb/day)
20.085	0.22	5.25	0.75	35.8	0.072	3.44

RULES AND REGULATIONS:

RULE 212: SIGNIFICANT PROJECT PUBLIC NOTIFICATION

A public notice is not required, because there is no school within 1000 feet of the company, no increase in criteria emissions from the equipment or facility above the thresholds, and MICR is less than one in a million.

RULE 401: VISIBLE EMISSIONS

Visible emissions from the operation of this equipment are not expected. No complaints resulting from visible emissions have been filed against this company. No N/C or NOV issued for visible emissions.

RULE 402: NUISANCE

The operation of this equipment is expected to comply with this rule. Several complaints resulting from odors have been filed against this company. However, no N/C or NOV issued for nuisance. Operation of this natural gas-fired boiler is not expected to result in any odors.

RULE 1146: EMISSIONS OF NOX FROM COMMERCIAL BOILERS

This boiler, rated at 20.085 mmBtu/hr, has been demonstrated to be in compliance with this rule, since BACT limits are more stringent than Rule 1146. Current limits are 30 ppm NO_x and 0.30 lb $CO/10^6$ BTU. Future limits for NO_x goes down to 9 ppm. This boiler complies with both the current and future limits of this rule.

REGULATION XIII:

BACT — The facility has demonstrated that the boiler meets the BACT requirements of 9 ppmv for NO_x and 100 ppmv for CO @ 3% O_2. A source test was conducted on July 8, 2008 to verify compliance. NO_x and CO concentration at high, low, and normal firing load were below 9 ppmv NO_x and 100 ppmv CO @ 3% O_2, respectively.

Offsets: NO_x: Operation of this new boiler results in a net increase of 5 lbs NO_x/day. Including this boiler, the facility PTE is 22 lb/day, therefore NOx emissions are exempt from offsets since facility is < 4 tpy [1304(d)(2)].

ROG/VOC: emissions were calculated to be 3.44 lbs/day (30-day R.A./max), requiring 3 lbs/day emission offsets. Rather than provide ROG emission offsets, the company requested to reduce by 3 lbs/day the existing VOC cap associated with the spray booth (D39, A/N 446595) from 173 lb/day to 170 lbs/day. This constitutes a concurrent facility modification for an offset exemption under Rule 1304(c)(2).

PM_{10}: Operation of this equipment results in an increase of 3 lbs PM_{10}/day. However, PM_{10} emission offsets will not be required since the facility potential to emit is less than 4 tpy [Rule 1304(d)(2), Table A].

Modeling: Modeling is not required, because the maximum hourly emissions for NO_x, CO and PM_{10} are less than the emission levels shown in the Table A-1, as summarized below:

Burner Rating, (MMBtu/hr)	NO_x Emissions		CO Emissions		PM_{10} Emissions	
	Calculated (lb/hr)	Allowed (lb/hr)	Calculated (lb/hr)	Allowed (lb/hr)	Calculated (lb/hr)	Allowed (lb/hr)
20.085	0.219	1.26	1.492	69.3	0.143	0.143

RULE 1401: MAXIMUM INDIVIDUAL CANCER RISK ASSESSMENT

This boiler is in compliance with this rule. As shown in Tier 2 screening risk assessment, MICR is below one in a million for residential and commercial areas. Both the Cancer Burden, HIC and HIA are below 1.0. See the attached spreadsheets.

REG XXX GENERAL:

This facility is not in the RECLAIM program. The proposed project is considered as a "de minimis significant permit revision" to the Title V permit for this facility.

Rule 3000(b)(6) defines a "de minimis significant permit revision" as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or hazardous air pollutants (HAPs) from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NO_x	40
PM_{10}	30
SO_x	60
CO	220

To determine if a project is considered as a "de minimis significant permit revision" for non-RECLAIM pollutants or HAPs, emission increases for non-RECLAIM pollutants or HAPs resulting from all permit revisions that are made after the issuance of the Title V renewal permit shall be accumulated and compared to the above threshold levels. This proposed project is part of the 1st permit revision to the Title V renewal permit issued to this facility on May 9, 2005. This revision also includes several other changes, as summarized in the following table (evaluations were done separately). The following table summarizes the cumulative emission increases resulting from all permit revisions since the Title V renewal permit was issued:

Title V Permit Revisions Summary

1st Revision	HAP	VOC	NO_x	PM_{10}	SO_x	CO
Replacing A/B #1 (C15) with RTO #7 (C48) venting pre-pregger #1 (D11-D13), Honeycomb Nomex bake oven (D14) and dip room #1 (D8) (A/N 422026)	0	0	-13.6	-0.77	0	-3.6
Admin C/C to split D11, D12 and D13 from PO #F61780 (C15/C48, D8) (A/N 456659)	0	0	0	0	0	0
Admin C/C to split D14 from PO #F61780 (C15/C48, D8) (A/N 456660)	0	0	0	0	0	0
Admin C/C to relocate RTO #6 (C10) and vent C16-C17 and D20-D22 (A/N 456662)	0	0	0	0	0	0
Admin C/C to remove D19 and to vent D20-D22 to RTO #6 (C47), instead of C23 (A/N 456663)	0	0	0	0	0	0
Admin C/C to vent D16-D17 to RTO #6 (C47) instead of to C18 (A/N 456664)	0	0	0	0	0	0
Operation of RTO #8 (C49), to replace AB #5 (C7), to vent dip coating operation #2 (D9), Rotocure press #10 (D41), oven #2 (D5) and oven #4 (D6) (A/N 456665)	0	0	0	0	0	0
Replacing A/B #5 (C7) with RTO #8 (C49) venting honeycomb bake ovens (D5-D6), Dip Room #2 (D9) and Rotocure #10 (D41) (A/N 456665)	0	0	0	0	0	0
New boiler #11 (D51) (A/N 481672)	0	3.21	5.25	3.44	0.38	35.81
Change of condition for spray booth (D39) (A/N 446595)	0	-3	0	0	0	0
Change of condition for spray booth (D1) (A/N 454623)	0	0	0	0	0	0
Cumulative Total	0	0	-8.35	2.67	0.38	32.21
Maximum Daily	30	30	40	30	60	220

Since the cumulative emission increases resulting from all permit revisions are not greater than any of the emission threshold levels, this proposed project is considered a “de minimis significant permit revision”.

CONCLUSIONS/RECOMMENDATIONS:

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “de minimis significant permit revision”, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to this facility.